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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,402	02/08/2002	Klein A. Rodriques	2002.ALC	4789
35157	7590	03/04/2004	EXAMINER	
NATIONAL STARCH AND CHEMICAL COMPANY			ASINOVSKY, OLGA	
P.O. BOX 6500			ART UNIT	
BRIDGEWATER, NJ 08807-3300			PAPER NUMBER	

1711

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.		Applicant(s)	
	10/072,402		RODRIQUES ET AL.	
	Examiner		Art Unit	
	Olga Asinovsky		1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-25 is/are pending in the application.
- 4a) Of the above claim(s) 14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-13 and 15-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 21-, 23-24, 7-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Arfaei U.S. patent 4,960,465.

Reference Patent 4,143,218 has been considered in the office action mailed 06/23/2003 and it is incorporated here by reference.

1. Arfaei discloses the backbone polymer based on polyoxyalkylene including polyoxyethylene, polyoxypropylene homopolymer or oxypropylene/oxyethylene copolymer. These backbone polymers are classified as polyethers. The preferred polyethers include reactive groups, e.g., amino, carboxyl, or hydroxyl groups, positioned at the end of the polymer, column 2, lines 53-58. The general formula is OH-(OR-) or H₂N-(OR-), or OH-(OR-) OH, or H₂N-(OR)NH₂, column 2, line 18. The polyoxyethylene having hydroxyl end groups is polyethylene glycol that is alcohol ethoxylate in applicants' claim 24. The polyoxypropylene or oxypropylene/oxyethylene having amino functional groups is readable in applicants' claim 7. The backbone polymer in Arfaei can have both a hydrophobic moiety and an amine moiety. The

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backbone polymer can have the average molecular weight of from 200 to 30,000, column 2, lines 65-68. Arfaei does not name the backbone polymer such as a non-polymeric surfactant. However, the backbone polyether having terminal amino or hydroxyl group is readable in applicants' claimed hydrophobic backbone having reactive end group. The burden is on applicants to present the evidence like a declaration showing the differences with the present claims 21, 24 and 7. A grafted side chain polymer is dimethylaminoethyl methacrylate, column 4, line 17. The graft copolymer in Arfaei is readable in applicants' claims 7, 10, 15, 16, 20-24. The pH is normally adjusted to provide optimum solubility or dispersibility of the graft copolymer, column 6, lines 31-32.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 7-13 and 15-25 rejected under 35 U.S.C. 103(a) as being unpatentable over Arfaei U.S. Patent 4,960,465 or Rodrigues U.S. Patent 6,291,594.

2. The difference between the present claims and Arfaei is the requirement in the present claim 21 for the selected backbone polymer under Markush group. The polyether having hydroxyl or amine terminal group is readable in applicants' claimed non-polymeric surfactant. It would have been obvious to one of ordinary skill in the art

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to use a graft copolymer in Arfaei such that the backbone and grafted side chain have both a hydrophobic moiety and an amine moiety and hydroxyl moiety, the ratio of the said amine to said hydrophobe can be selected as specified in the present claims 10-12 because the selected ratio is depending on the desired properties of the obtained graft copolymer and wherein a pH can be controlled for obtaining the desired solubility of the graft copolymer.

Rodrigues discloses a graft copolymer comprising polyglycol having a hydroxyl or amine terminal group having the general formula at column 4, line 27, and an ethylenically unsaturated monomer grafted on said polyglycol in the presence of a free radical initiator, column 1, lines 55-64. The polyglycol such as an alcohol ethoxylate is readable in applicants' claim 24. The ethylenically unsaturated monomer can be selected such as acrylamide, vinyl pyrrolidone, column 3, lines 56-65. It would have been obvious to one of ordinary skill in the art to select the polyglycol in Rodrigues invention such that a said polyglycol have both a hydrophobic moiety and functional group such as hydroxyl or amine because the selection of a functionalized polyglycol is depending on the desired solubility of the obtained graft copolymer and the pH condition is controlled by the alkaline medium.

This action is not final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Olga Asinovsky whose telephone number is 571-272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Olga Asinovsky
Examiner
Art Unit 1711

O.A.
Feb. 24



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1711